Lantern slides	57.50
Electrotype cuts	11.40
Photographs of window display	3.20
Cord, adhesive	.70
Dr. Tucker, expenses to Los Angeles	5.00
Dr. Tucker, expenses to Los Angeles Miscellaneous	10.00
	$375.21

RETURNS FROM SALE OF SEALS.

Society	No. Received	No. Unused	No. Sold	Per. to State	Per to Nat. Assn.
San Francisco	1,500,000	857,525	642,475	$ 770.97	$ 803.09
San Diego	200,000	110,852	89,148	106.97	111.43
Los Angeles	1,600,000	1,200,000	200,000	400.00	250.00
L. A. School	3,000,000		200,000	400.00	(338.95) Printing
Pasadena	20,000	6,659	13,341	16.00	16.67
Redlands	20,000	11,611	8,389	10.50	10.50
Stockton	200,000	120,000	80,000	84.00	100.00
Sierra Madre	4,000	769	3,231	4.04	4.04
Santa Ana	10,000	9,049	951	4.82	1.18
San Jose	400,000	317,394	82,606	99.12	103.25
San Rafael	50,000	33,373	16,627	19.95	20.78
Alameda C't'y	150,000	84,997	65,003	78.00	81.25
Sacramento	250,000	163,743	86,257	90.57	107.82
Riverside	96,000	65,077	30,923	37.10	38.64
	7,500,000	5,981,049	1,518,951	$2122.04	$1648.65

Received from sale of seals	$2122.04
Expenses of campaign	375.21
Net receipts	$1746.83
Net receipts	$1746.83
Bal. from last year	43.65
Membership fee	2.00
Total amt. on hand	$1792.48

THE PATHOLOGICAL CONDITIONS OF THE EYE SECONDARY TO DISEASE OF THE LYMPHATICS OF THE NECK AND THROAT.*

By E. W. ALEXANDER, M. D., San Francisco.

Abundant and sufficient evidence has been submitted during recent years to show the marked susceptibility of the eye to endogenous toxins. The well known and invaluable investigations made under the direction of de Schweinitz, and the contributions of Lawson and continental authorities, point conclusively to intestinal putrefaction and fermentation as a cause of choroiditis and general uveitis. Likewise inflammation of the genito-urinary tract, the accessory sinuses of the nose, diseases of the teeth and gums, and other inflammations and errors of metabolism affecting more or less remote organs.

Incidental to various reports along these lines, mention has been made of the association of disease of the lymphatics of the neck and throat to inflammations of the eye. A series of cases which have from time to time come under my observation seem significant and suggestive, and prompt me to make these assertions more specific.

* Read before the Forty-Second Annual Meeting of the State Society, Del Monte, April, 1912.

My conviction is, that acute and chronic inflammations of the lymphatics are responsible for conjunctivitis, keratitis, irido-cyclitis, choroiditis, retro-bulbar-neuritis and functional disability of the eyes. The products of inflammation which initiate these pathological changes are those due to the breaking down of proteids by the toxic and digestive action of bacteria, also metastatic deposits of the latter, or the bacteriacidal toxins elaborated in their growth, which probably reach the eye through the lymphatics or general circulation.

The units of this lymphatic system most frequently affected are the adenoids, tonsils and posterior cervical chains of glands. The inflammation may be due to pyogenic bacteria of the usual type, and especially tubercle bacilli or the organism of acute articular rheumatism. The glandular infection may be secondary to the throat, or primary, by passage of the organism through the tonsils and adenoids as portals of entry.

Conjunctival Lesions. These may be phlyctenular, follicular, true tubercular, or that indefinable injection of the conjunctiva and subconjunctiva associated with much redness and congestion and more or less pain, but slight secretion. The phlyctenular type is common and the cause of a large quantity of literature as to its etiology and pathology. I cannot refrain from a slight digression on this much-abused subject. In the first place I wish to protest against the term "conjunctivitis eczematosa." Such a term is very misleading and covers up an ignorance of the real or primary cause of the lesion. There may be an occasional case where one cannot discover any source of toxemia except a skin lesion, but as a rule any seborrheic or eczematous condition of the surrounding skin is simply another manifestation of the general intoxication, or secondary to the irritating ocular discharge. The term "phlyctenule," if used generically, covers all cases of this clinical group, although even this term is strictly inaccurate except for the appearance of the inflamed conjunctival area. For, as Parsons and Leber point out, there is never a blister formation, but rather a solid collection of round, polymorphonuclear and scattered giant cells. These inflammations recur and inasmuch as recurrences are often contemporaneous with colds and the presence of diseased tonsils and posterior cervical glands, I have directed my treatment in such cases to clearing up the cervical lymphatic affection in addition to the local eye treatment.

For instance, a little girl had an obstinate recurrence in a long series of such inflammations. Examination showed a strongly positive Moro and Pirquet, also posterior cervical glands. At operation I found the tonsils deeply imbedded in the throat and uncovered a collection of soft creamy white exudate under the plica triangularis. Within a few hours after the tonsillectomy the eye had cleared, and within two weeks the glands of the neck were not palpable. No recurrence has taken place during the last eighteen months. In this case the source of irritation was undoubtedly in the tonsils and the posterior cervical glands.

Frequently, in such cases, I have felt that the

rôle of the chronically inflamed tonsils is merely to lower the resistance of the cervical glands by absorption of products of inflammation whereby tubercle bacilli find a favorable soil for growth, and produce soluble tubercular toxins which enter the general circulation. In such cases the physical examination and general condition of the patient belies any pulmonary or constitutional tuberculosis. Parsons inclines to the belief, which is shared by other investigators, that phlyctenular conjunctivitis and keratitis are due to endogenous toxins. Recent literature points strongly to either a tubercular toxin, or those elaborated in the intestinal tract, as the most frequent cause; and when we realize that disease of the cervical lymphatics often causes a daily rise of temperature in children, marked debility, both mental and physical, gastro-intestinal disturbances with indican and diacetic acid in the urine, loss of weight, etc., it is easy to understand that phlyctenular conjunctivitis, in the majority of cases, is vastly and permanently improved by cleaning out the diseased lymphatic structures of the nose and throat, or removal of similarly diseased glands of the neck.

Follicular conjunctivitis is another exceedingly chronic and troublesome condition in some patients. It is due to so many diverse irritating factors that Parsons calls it a symptom and not, strictly speaking, a conjunctivitis. I have frequently found it associated with hypertrophied lymphoid structures of the nose and throat, and gained a quick response to my local treatment after first enucleating the tonsils and adenoids.

Keratitis. This is often associated with phlyctenular conjunctivitis, but also may be of the interstitial variety. A young boy gave a history of many recurrences of the latter lesion, extending over a period of two years, even while under the care of competent ophthalmologists. He showed a characteristic tuberculin reaction, was free from physical signs of pulmonary tuberculosis, gave a negative Wassermann, and showed diseased tonsils and adenoids and a chain of posterior cervical glands two of which were about the size of hazel nuts. The cornea had a diffuse mottled infiltration of the whole parenchyma, with one or two dense white nodules near the limbus, an associated phlyctenular conjunctivitis at the limbus, and no new vessel formation. There was an associated iritis. In this case the enlarged cervical glands were removed and found to be tubercular microscopically and by the injection of a triturated extract into a guinea-pig. The eye then improved rapidly until only a slight opacity remained at the sight of the dense peripheral nodules and no recurrence has appeared as yet. Of course he now needs a tonsillectomy.

True tubercle of the cornea is exceedingly rare and only a few cases have been reported on an anatomical basis, notably those of Haensell, Hartridge and Griffith, Baumgarten, E. V. Hippel and Schultz, but, as we find a toxic infiltration of round cells associated with a general uveitis, in interstitial keratitis due to syphilis, so also in a tubercular toxemia the involvement of the same embryologic layer posterior to the cornea may, as in my case, extend to the corneal parenchyma. It is true moreover that one cannot diagnose many of these conditions of the uveal tract from their clinical ocular appearance; and we are only led to suspect, and later feel certain, that the disease is due to other than specific toxins, by its failure to clear up under specific treatment, by its chronic and noteworthy recurring tendency, by the not infrequent lack of pain, and by its marked improvement with tuberculin, or removal of some focus of toxemia.

Choroiditis and Irido-Cyclitis. Here I refer to a case I reported and demonstrated before the San Francisco County Medical Society and which appeared in the CALIFORNIA STATE JOURNAL OF MEDICINE November, 1911, in which a tubercular affection was apparent, both from the appearance of the eye and the fact that the eye cleared beautifully with the exclusive use of tuberculin and later a tonsillectomy. The boy had diseased tonsils and enlarged posterior cervical glands, and showed strongly positive Moro and Pirquet reactions. Otherwise he gave absolutely no physical signs of tuberculosis or syphilis, and no history of the same in his family. He was apparently a perfectly healthy child. Wassermann was negative. His tonsils were full of foul smelling cheesy deposits. After a tonsillectomy the glands soon disappeared and also the remnants of the eye trouble.

I again wish to digress long enough to emphasize the fact that tuberculosis of the choroid may manifest itself in association with any form of general or local tubercular lesion. It was formerly thought that tuberculosis of the choroid appeared only in terminal pulmonary, meningeal, or disseminated miliary tuberculosis; but since Sidney Stephenson's contribution to this subject in 1901 many instances have been reported in apparently healthy individuals. The diagnosis in these cases is substantiated by the tuberculin reactions, associated with negative Wassermanns, and the marked therapeutic effect of tuberculin in ascending doses. In my case, which was typical, the primary tubercular focus was apparently situated in the cervical glands, and possibly the tonsils; and I assume, as others have suggested, that the pathological process in the choroid was not the well known tubercle with its usual arrangement of cytological elements, but an infiltration of round cells, and to be classified as a "tuberculeid."

Contemporaneous rheumatic iritis and chronic tonsillitis, in the light of recent teaching that the rheumatic organism invades the body through the tonsils, should certainly receive more than medicinal and local eye treatment; but ought to include an effective and permanent closure of the portals of infection by a tonsillectomy.

Retro-bulbar Neuritis. This case gave the typical signs of the disease, with vision in the affected eye 6/60. The lady had absolutely no indication of the etiology except some very large, chronically inflamed tonsils. A tonsillectomy was

refused. Electricity and strychnine relieved the pain, and improved the vision slowly to 6/15. One day the patient called complaining of the return of the original symptoms and a marked temporary bilateral amblyopia the evening before. The tonsils showed a subacute follicular involvement. At the same time the patient received word from out of town that her daughter was sick with pneumonia. During her absence of ten days she suffered intensely both from her throat and eye. On her return I removed the tonsils, with almost immediate cessation of ocular pain and an improvement of vision to 6/7 in two weeks.

In this case we probably had a pyogenic infection to deal with, from which the soluble products passed to the eye.

In regard to functional disability, the debilitating effect of the diseased structures in the throat has been repeatedly shown. Following tonsillectomy, moderately strong hypermetropic glasses, which seemed practically indispensable, have been discarded. Distressing headaches have likewise been relieved, even while the ametropic correction was in constant use; also photophobia; and twitching of the lids.

It is on the basis of functional disability of the muscles of accommodation that I advise a thorough overhauling of the throat in children afflicted with concomitant strabismus. It is a common observation that ocular muscle tone is so reduced in debilitating diseases that often a disturbing heterophoria or pseudo-nystagmus appears, and certainly in the treatment of a late or faulty developing fusion center, such as we have in concomitant stabismus, every means to improve the general nervous tone should be employed, even in the absence of subjective symptoms of lymphatic origin.

In Conclusion. Obscure and recurring inflammations of the eye are often due to soluble toxic products from diseased tonsils, adenoids, or cervical glands, which reach the eye by the lymphatics or general circulation. This is particularly true in children and in the tubercular affections of the eye. The rational treatment is obvious, viz: the complete removal of the diseased structures surgically, supplemented by the administration of appropriate tuberculin or other remedies.

Discussion.

Dr. Wm. F. Blake, San Francisco: My experience does not entirely agree with that of Dr. Alexander in that I have seen comparatively few cases that I considered due to tuberculous infection. Unquestionably there is a very direct relationship between infection anywhere in the cavity of the mouth and nose with persistent irritation inside or outside the eye, due I believe, to regional irritation of the 5th nerve, which is distributed to the inside of the mouth as well as the nose in addition to the eye. If you have in the nose or mouth some toxic or infected condition it seems to me a plausible supposition that that irritation is transmitted to other branches of the 5th nerve that supply the eye and we get a local point of inflammation. There are many cases of infection of the scleral vessels with localized edema, painful at times, in which we find no explanation of their cause in the eye and treating the eye is absolutely useless. I have two cases in mind that I will quote.

Mrs. D. came to me with that type of scleral injection and gelatinous edema which at times would break down and form a superficial ulcer. She was given general tonic treatment. Locally atropin, dionin, argyrol and subconjunctival injection of salt solution were conscientiously used. It finally occurred to me to examine the mouth and there I found the roots of four teeth; the gum on same side in bad condition. She was sent to a dentist and had the roots removed; she was cured, and I believe it was the dentist who cured her and not myself. I believe that much of the irritation of the branches of the 5th nerve and upper sympathetic is due to infection in the mouth.

On the other hand many of these cases are due to metastases of septic products. I saw a case of acute iritis present at the same time as an acute tonsillitis. In the first and second cases the Wassermann and Von Pirquet reactions were done and a urine examination made. All were negative and I feel that the contributing agent that kept up the eye trouble was the septic point in the nose and throat. If we are going to treat the eye we have to get outside the eye. Focal lesions seemingly far removed in other parts of the body are a determining factor and we cannot hope, unless we recognize the influence of the general condition, to successfully treat the great mass of eye troubles.

Dr. Harrington B. Graham, San Francisco: I think there is something beside direct infection of conjunctiva in unilateral affections of the eye responsible for these conditions. A case of recurring conjunctivitis came to the clinic having had conjunctivitis for a week; it was referred to us for examination. Looking into the mouth we found a large tonsil reaching to the middle line on the affected side, and on the other side the tonsil was normal. I took a tonsillotome and clipped off the tonsil that was projecting into the mouth and in 24 hours the conjunctivitis had disappeared and had remained away. There must have been some nervous affection and not an infection of the conjunctiva to account for the trouble in the eye.

Dr. Cullen F. Welty, San Francisco: I want to report 4 cases of recurring ulceration of the cornea; the histories of these patients was scattered over a period of 2 to 4 years. Upon these 4 cases I operated, enucleating the tonsils and they all got well and remained so. Just how these infections take place or what causes them I will leave that for the eye man to say.

Dr. P. de Obarrio, San Francisco: It is gratifying to me to see that Dr. Alexander's excellent paper tallies to a great extent with my previous paper on the hyperemia of the conjunctiva after cataract extractions without having any connection whatsoever in our writing. It is evident that a good many of the eye affections as Dr. Blake says, are not to be treated in the eye but elsewhere. There are two avenues of infection, so to speak, to the eye; through the circulation and by reflex action through the nerve supply, besides purely local inflammations, and it is well to bear in mind the influence that carious teeth will have in producing or prolonging an inflammatory condition of the eyes when there is no other cause to account for this.

Dr. C. C. Stephenson, Los Angeles: There is one point I would like to bring out in reference to the interstitial keratitis mentioned. I do not believe that enucleation of the tonsil or adenoid in interstitial keratitis will do the keratitis any good. When we realize that we have the spirochete between the corneal layers we know that no local remedy will reach it. To cure

interstitial keratitis something else must be done beside the enucleation of the tonsil or removal of the adenoid. I have found the intramuscular injections deep in the gluteal muscle of atoxyl to be the most satisfactory method of treatment. Mercury must be given internally at the same time. From 8 to 12 injections of from 3 to 7½ grains of atoxyl injected weekly will cure the majority of cases. No claim is made, however, that this remedy will clear up an organized opacity due to inflammatory action resulting from bacterial activity.

Dr. E. W. Alexander, San Francisco: In the light of Dr. G. de Schweinitz's careful investigations, and the fact that these patients improve so very much in general health coincidently with their eye improvement I must conclude that the irritation is more than likely a toxic affair and not a reflex nerve involvement. It is a well-known fact that a large percentage of diseased tonsils and enlarged cervical glands are tubercular and my cases certainly show therapeutically and by the various tests a circulating toxin of that type. In closing I wish to make a plea for a more thorough and scientific study of internal medical and laboratory methods of the general system in these obscure eye inflammations. I am satisfied that many cases are incorrectly diagnosed but get well for a while with local treatment and doses of mercury and iodides. Invaluable information to the patient and interest to ourselves will be obtained by a more comprehensive study of the system as a whole.

A PROPOSED CODE OF PUBLIC HEALTH REGULATIONS FOR CALIFORNIA.*

By JOHN N. FORCE, M. D., Berkeley.

In the year 1824 one Stephen Dodd, being pastor of the Congregational Church in East Haven, Connecticut, published a thin little volume wherein was set down the history and vital statistics of his town, between its settlement in 1664 and the year 1800. Those who are inclined to charge our modern congested cities with every crime against public health may read with profit the story of East Haven.

In 1736, being then about 500 souls, the town was visited by a sickness of a throat ail which carried off twenty-six persons of all ages. Likewise in 1742-43 there died of a dysentery with fever no less than sixty. From then on the record shows an approximate annual death rate of thirty per thousand for dysentery and fifteen for a canker rash among the children. Is this not a striking commentary on the belief that the simple country life makes for resistance that can afford to ignore sanitation? Many people will tell you that as we live closer we get dirtier, and of course filth breeds disease. There is only one thing harder to do than get rid of a time-honored popular belief, and that is to make a new fact penetrate the mass.

A new fact has emanated, let us say, from some quiet worker in a laboratory, who publishes it in an ultra-technical journal read only by the "anointed." It may perhaps attract the attention of some one who is writing a text-book. Of course nowadays there are precious few books for graduates. Every one must address students and tell it all. Tell what he knows and ballast with junk. The pearl of price is buried deep in the mud, and the average reader, not being of the "anointed," roots it up with his nose, tosses it to one side, and goes on feeding on the old familiar theories. And the laboratory men go on wondering why the practice of public health lags so far behind the principles.

After all the health officer who stumbles over this new pearl is not so much to blame. There are several reasons why he cannot bind it upon his forehead for the world to see. There is first the bogy of private practice. The fear of offending a conservative clientele by a too radical departure, has deterred many a man from trying out the new thing. There were certain tender toes which must never, never be trod upon. It was safer to abide by an old popular opinion than to mould a new one. Then again, there were the city ordinances carefully designed not to conflict with certain ichthyosaurian state laws. The new pearl did not shine well with these as a background. It was certainly safer to go on collecting dead cats and fumigating, with pleasant little excursions to tear up some plumbing following a case of diphtheria or typhoid. Even if he did dream dreams and see visions, he could not act alone. Many things required a definite state support and this was lacking. Lacking, alas, in spite of a growing popular demand for state regulation where several communities are jointly affected. Under it all he felt a smoldering popular dissatisfaction with the old tradition, fanned busily by certain interested factions; yet, tongue-tied by fear, convention, ethics, tradition, and lack of support he could not cry out and save his people.

Saddest of all, his foes were "those of his own household." His professional brethren would have indicted him on the two counts "advertising" and "trying to drum up business," if he had attempted to popularize his information. The medical profession will some day have to answer a heavy charge of unfairness in Public Health relations. Unfairness to the public in not demanding a high grade of Health Officer, and unfairness to the Health Officer in not holding up his hands, before all the people. Holding up his hands, first of all by abandoning the black cloak of medieval mysticism and giving information to the people. Holding up his hands by keeping in touch with new thought. Perhaps then when your Health Officer holds out to you this pearl of price, you may recognize its value. Finally, holding up his hands by helping to give him modern health ordinances, with self-starters, wind shields, large gasoline and oil tanks, and a full equipment of lamps.

The old laws are concerned with such things as sewer gas, effluvia, noxious odors, air contamination, and character of soil; and how diligently all these things have been investigated as carriers of disease. A puff of ill-smelling smoke contained a charm against the diseases which lurked in a small piece of dead skin. The surgeons long ago stopped the carbolic spray in operating rooms, and

* Read before the Forty-Second Annual Meeting of the State Society, Del Monte, April, 1912.